
From: michael Goo (b) (6)
Sent: Friday, May 10, 2013 5:27 PM
To: Goo, Michael
Subject: Fw: CSAPR Concerns

----- Forwarded Message -----

From: Michael Bradley <mbradley@mjbradley.net>
To: (b) (6)
Sent: Sunday, September 18, 2011 1:38 AM
Subject: FW: CSAPR Concerns

Michael,

Below is the message I have sent to Gina and Joe. I can be reached before 10:00 AM eastern time tomorrow morning and after 3:30 PM when I arrive in DC.

Michael

From: Michael Bradley [mailto:mbradley@mjbradley.com]
Sent: Sunday, September 18, 2011 1:35 AM
To: (b) (6)
Subject: FW: CSAPR Concerns

Joe,
Would you please send this email on to Gina for me? I would have sent it to her directly with a cc to you but I don't have a private email address for her and would prefer to not use an official email address. Your calls to Eric and Bob were very helpful in reassuring them that EPA is looking to be responsive to their State budget concerns but time is becoming an issue and others within PSEG and NGrid are pushing for a clear resolution in the very near term. Thanks.

Gina,

As you know, many of the CEG companies have been having a series of conversations with EPA about the concerns on the final state budgets under the Cross-State Air Pollution Rule (CSAPR). The companies want to remain supportive of the final CSAPR because it is intended to reduce emissions. In general, the companies see the rule as improving on CAIR and being responsive to the D.C. Circuit's decision. However, we are continuing to identify errors in the final rule that we believe could undermine the legal stability of the rule. Our goal is to have a rule implemented that is legally sound, gives the industry the needed business certainty for investments in cleaner generation, and addresses the air transport issues affecting many of the state in which the CEG members operate. We would not want to see the rule stayed.

However, as we have discussed, the state budgets for NY, NJ, and FL were significantly reduced in the final rule. These changes are making supporting the implementation of the rule, as currently written, very

difficult. While we understand EPA is willing to consider making technical adjustments to state budgets based on new technical information, we are concerned that despite efforts to provide EPA with additional information, EPA may not be able to adjust those state budgets until after October 7th – the deadline for when petitions for reconsideration and petitions to the DC Circuit are due. Additionally, since the rule's release, multiple levels of staff at the various CEG companies have become involved in evaluating the implications of the rule and suggesting various courses of action, which, as I am sure you can appreciate, make the dynamics difficult to manage.

Since the rule's release about 10 weeks ago, we have been working to explain the concerns we have with certain state budgets and highlight the technical errors that result from using the IPM model and not taking into account the transmission system constraints that are unique to certain areas in the U.S. The following explains our specific concerns related to New Jersey, New York and Florida as well as the outreach we have had with EPA.

Following Eric Svenson's outreach to you regarding PSEG's concerns, we have had several discussions with Joe Goffman and Sam Napolitano on the NJ state budget. Compared to the proposed budget, New Jersey's final annual NOx budget was reduced by 39 percent, the ozone season NOx budget was reduced by 36 percent, and New Jersey's SO2 budget was reduced by 51 percent. With fewer allowances available to the state, several of PSEG's generating units are projected to be short allowances beginning in 2012, despite having advanced pollution control equipment installed and operating. Additionally, since PSEG's generating fleet is generally well controlled, there are limited opportunities for further emissions reductions between now and 2012.

A similar situation exists for NY. Compared to 2010 emissions, NY state looks to be significantly short of the 2012 state budgets even with the assurance provisions. We understand the NYDEC has been engaged with EPA to provide information to highlight the fact that there are many units in NY that must operate due to transmission constraints but for which the model predicted the units to have zero heat input. Both National Grid and Consolidated Edison of NY have also had calls with Sam and Joe to express similar concerns with the model and state budget, and had provided similar information about these must run units during the comment period. Without adjustments to the state budget, there are concerns that units needed for reliability purposes would not be able to operate.

NextEra has also met with Joe and Sam several times regarding the Florida state budget, and there we are also seeing that the IPM model fails to recognize that some units will need to run for reliability purposes due to natural gas constraints. This was an issue NextEra and others also raised during the comment period, and the inability of the model to make these adjustments significantly impacts the state allowance budget.

The concerns described above are creating a very difficult dynamic within the Clean Energy Group and for these individual companies to remain supportive of EPA's regulations. The approaches in the final rule appear to penalize the early investments many of the CEG companies made in anticipation of regulations. Additionally, the rule does not allow for economic growth as there is not updating of allowance allocations.

I am appreciative of EPA's efforts to try to make the necessary adjustments to state budgets that have clear errors while ensuring that any changes do not affect the timely implementation of the entire rule. The CEG members similarly want to make sure that right balance is struck so that the rule can remain effective in January 2012. Joe in particular has been very constructive in trying to find any appropriate solutions, but given the tight timeframe leading up to October 7th, I wanted you to be aware of the difficult position in which many of the CEG members are finding themselves.

Please do not hesitate to call me with any questions. I will be traveling tomorrow from the west coast to DC, arriving at 4:00 PM, and plan to be in DC all day on Monday and Tuesday. With the exception of the times

when Sue Tierney, Paul Allen and I are presenting a Utility Toxics Rule briefing for House and Senate staff on Monday I'm available to discuss these issues with you and others.

Michael

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From: Michael Goo <(b) (6)>
Sent: Wednesday, November 20, 2013 8:35 AM
To: Goo, Michael
Subject: Fwd: SAB Urged to Review Adequacy of EPA's Basis for NSPS CCS Mandate

Sent from my iPhone

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From: Jessica Holliday <(b) (6)>
Date: November 19, 2013, 3:21:38 PM EST
To: Michael Goo <(b) (6)>
Subject: SAB Urged to Review Adequacy of EPA's Basis for NSPS CCS Mandate

Daily News

SAB Urged To Review Adequacy Of EPA's Basis For NSPS CCS Mandate

Posted: November 18, 2013

An EPA Science Advisory Board (SAB) work group is asking SAB to review the agency's proposed climate utility rule because of questions about the adequacy of the peer review of certain studies used to justify the rule's mandate for carbon capture and sequestration (CCS) at coal-fired power plants, and of the rule's coal utility emission limit.

The work group's questions about the justifications for the rule -- outlined in [a Nov. 12 memorandum](#) from the group to the full SAB -- may boost critics of the new source performance standard (NSPS), who say the plan to require partial CCS at coal utilities will effectively bar construction of new coal plants because CCS is an unproven and costly technology, and that EPA cannot rely on existing CCS projects funded in part by federal dollars to justify the mandate.

If the SAB agrees with the work group's advice to review the utility NSPS, it would launch a high-profile forum over whether EPA has adequate justification to require new coal-fired power plants to install CCS, which was the focus of a recent House Energy & Commerce Committee power panel hearing on the pending climate rule.

The fight centers on whether CCS is "adequately demonstrated" -- part of the Clean Air Act standard for EPA being able to mandate its use in the NSPS. EPA has cited some U.S. CCS projects, such as Southern Company's Kemper plant, to show technology is viable, though the agency also relies on non-federally funded projects to help justify CCS.

[Republicans counter](#) that a provision of the Energy Policy Act of 2005 (EPACT) prohibits EPA from finalizing the NSPS, because it bars reliance in rules on carbon capture projects funded under the law, which would include three of the facilities that EPA credits in the NSPS proposal as helping demonstrate CCS's viability. Environmentalists are pushing back on those claims, saying the energy law is not as restrictive as the GOP is claiming.

In a possible signal that Republicans recognize the limits of the EPACT's prohibition, House energy committee power panel Chairman Ed Whitfield (R-KY) and Sen. Joe Manchin (D-WV) are pushing legislation to require EPA to set the NSPS based on emissions of existing utilities that have received no government subsidies.

The ongoing fight in Congress over the viability of CCS could spill over to the SAB if the board agrees with the work group's call to review the climate NSPS. SAB will hold a Dec. 5-6 meeting in Washington, D.C., discuss the recent advice of the six-member work group, which has been tasked with looking at which rules might raise new scientific issues that could merit SAB review as part of an initiative launched early this year.

DOE Studies

The work group says the peer review of a handful of Department of Energy (DOE) studies that were cited in the NSPS that looked at the costs and performance of fossil fuel power plants, including the costs of operating those plants with and without CCS, "appears to be inadequate" and therefore warrants SAB review.

EPA staff told the work group that the studies, conducted by DOE's National Energy Technology Laboratory (NETL), "were all peer reviewed and EPA did not conduct additional peer review(s)."

But the work group questions the adequacy of that peer review, based on information provided to them by a DOE official who said parts of those studies did not go through peer review.

The NETL studies could be important to the rule because they form a component of EPA's statutory obligation to determine what qualifies as the best system of emission reduction (BSER) for carbon dioxide (CO₂) emissions from coal plants. Under the Clean Air Act, EPA sets performance standards that reflect BSER, which by statute must be "adequately demonstrated" and also take into account costs and energy performance.

EPA, in its Sept. 20 proposed NSPS, found that BSER for natural gas plants was using combined cycle turbines while BSER for coal utilities was partial CCS. It justified that CCS was BSER in part by identifying four coal-fired power plants with CCS in California, Mississippi, Texas and Canada that are in the advanced stage of construction, and in part based on studies that evaluated the state of CCS technology and its costs, including the NETL studies.

Beyond the peer review issues, the work group says the SAB should review the utility NSPS because it "could not determine, from the information provided by the Agency, whether there was an adequate scientific and technological basis for the proposed provisions to achieve emissions reductions in coal-fueled" power plants.

Issues with the rule that could merit SAB review, the work group says, are the scientific basis to develop separate standards for coal- and natural gas-fired power plants; whether CCS should

qualify as BSER for coal-fired power plants; and the "underlying scientific assumptions around carbon pollution emissions technological controls."

An EPA spokeswoman says the agency is reviewing the memo, and DOE did not respond to a request for comment.

Peer Review

EPA staff told the SAB work group that the NETL studies were subject to "significant peer review," but the work group found potential issues with the peer review process after emailing DOE official Kristin Gerdes, who in an Oct. 31 email told SAB officials that some of studies cited in the NSPS had not gone through peer review.

One NETL study, "Cost and Performance Baseline for Fossil Fuel Energy Plants, Volume 1," was released in 2007, at which time it went through peer review by industry, academic and government experts. The report then went through extensive changes in a 2010 revision, and was revised again in September 2013 to adjust for inflation, but neither of those revisions went through peer review, and DOE did not have a publicly available description for the peer review process for the initial 2007 report, Gerdes says in the email.

A second study, a 2011 report that looked at the costs and performance of carbon dioxide capture for pulverized coal and integrated gasification combined cycle power plants, "did not undergo peer review," Gerdes says. The work group, in the Nov. 12 memorandum, says that "all information presented for coal-fueled sources" in the NETL study did not go through peer review, and concludes that the peer review of the studies "appears to be inadequate."

In the memorandum, the work group declined to recommend reviewing EPA's pending NSPS for the large fleet of existing power plants, which is expected to be proposed by June 2014. Through the initiative, the work group reviewed 11 "major" actions published in EPA's recent semi-annual regulatory agenda, published July 3.

But the work group says it does not recommend pursuing a SAB review of the pending NSPS for existing utilities because it expects the rule will not include major scientific or technical issues that are new to EPA.

Even so, the work group in the report flags several issues SAB could potentially review that relate to the existing source NSPS, such as "lessons learned" from the small number of 111(d) emission rules in effect, the scientific and technical assumptions states will make when craft their 111(d) implementation plans, and the scientific and technical basis for state-based supply-side and demand-side options to limit carbon dioxide emissions.

CCS Projects

Meanwhile, environmentalists are pushing back on the House GOP's claim that the 2005 EPACT that helped established funding for some coal-fired plants installing CCS would prohibit EPA from including those plants as justification that the technology met a Clean Air Act requirement of being "adequately demonstrated."

Four Republicans on the House Energy and Commerce Committee, including committee chair Fred Upton (R-MI) and Whitfield, in a Nov. 15 letter to EPA Administrator Gina McCarthy, said the energy law "prohibits EPA from setting a performance standard" that is based on technology

achieved through a DOE-run program created by the law. They say EPA should withdraw the NSPS because it cited CCS projects that received funding from the program.

But David Hawkins, director of climate programs at the Natural Resources Defense Council, in a Nov. 18 blog post says they are "flat wrong" about the effect of the law, given that it only bars EPA from determining that a technology is adequately demonstrated if the determination is "solely" based on projects funded through the DOE program.

Hawkins says that for the utility NSPS, this is not the case, as EPA in its rule made its CCS determination based on decades of experience with large-scale industrial CO2 capture, studies by DOE and others about the viability of the technology for coal-fired power plants, and several projects moving forward that are using CCS. "The 2005 EPACT simply does not bar EPA from considering these projects as *part* of the basis for its conclusions," Hawkins wrote. "I was involved in the negotiations about this EPACT language and the word 'solely' was included specifically to prevent anyone from claiming that just because a project receives government funding, EPA must ignore the project."

Hawkins says that even Whitfield seems to understand that the law would not prevent EPA from considering the DOE-funded CCS projects, as in his recent draft legislation to limit EPA's utility NSPS authority, "he took pains to include language" to block the agency from using any government-supported projects in its NSPS. -- *Chris Knight* (cknight@iwpnews.com)

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Sent: Saturday, November 16, 2013 1:00 PM
To: Goo, Michael
Subject: Re: E and C letter

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We are going to have to drill down to figure out funding streams and tax credits. DOE help would be great. I think Goffman was going to contact someone over there. I'm not sure how we figure out the tax credit status.

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Subject: Fw: E and C letter

Hi Lorie. How are you? Hey are you guys looking at this? I'm just wondering if those are the only four plants we are relying on and whether this provision in the 2005 energy does or will have the effect of disqualifying those plants from being the basis for BSER. I'm thinking about this from my new DOE angle and whether we could help come up with some other plants. I asked Alex Barron to check on this as well. Maybe Janets list was incomplete. Thanks for any thoughts or help you can offer. I can pass things up the line at DOE if need be.

From: Michael Goo <(b) (6)>
Sent: Friday, November 15, 2013 6:18:25 PM
To: Goo, Michael
Subject: E and C letter

From: Energy and Commerce News [<mailto:EnergyandCommerceNews@mail.house.gov>]
Sent: Friday, November 15, 2013 4:14 PM
Subject: Committee Leaders Request Withdrawal of EPA's Proposed Power Plant Standards Citing Prohibition Under Energy Policy Act



COMMITTEE ON ENERGY AND COMMERCE

Chairman Fred Upton
113th Congress

November 15, 2013

[\(202\) 226-4972](tel:(202)226-4972)

Committee Leaders Request Withdrawal of EPA's Proposed Power Plant Standards Citing Prohibition Under Energy Policy Act

"...EPA's consideration of CCPI projects to determine that CCS for power plants is 'adequately demonstrated' is prohibited."

WASHINGTON, DC – House Energy and Commerce Committee leaders today [wrote](#) to Environmental Protection Agency Administrator Gina McCarthy expressing concerns regarding EPA's proposed greenhouse gas New Source Performance Standards for new power plants that would require the installation of carbon capture and storage (CCS) technologies that are not commercially viable. The members believe the proposed standards go beyond the scope of the EPA's legal authority and are requesting the proposed rule be withdrawn.

EPA is proposing standards pursuant to Section 111 of the Clean Air Act, which provides that emissions standards must be achievable using "adequately demonstrated" technologies. EPA maintains that CCS technologies for coal-fired power plants have been "adequately demonstrated" based on three government-funded projects under construction or planned that are receiving assistance under the Department of Energy's Clean Coal Power Initiative (CCPI) and one other small-scale Canadian government-funded project. EPA Acting Assistant Administrator Janet McCabe confirmed the agency uses these projects as the basis for its determination during [questioning](#) at yesterday's Energy and Power Subcommittee [hearing](#). **While EPA is using these projects to justify its proposed standards, the Energy Policy Act of 2005 [prohibits](#) EPA from considering technology used at CCPI projects as being "adequately demonstrated" for purposes of Section 111 of the Clean Air Act.** Based on these facts, the committee leaders concluded, "Under these provisions of the Energy Policy Act of 2005, EPA's consideration of CCPI projects to determine that CCS for coal-fired power plants is 'adequately demonstrated' is prohibited."

In the [letter](#) to McCarthy, House Energy and Commerce Committee Chairman Fred Upton (R-MI), Chairman Emeritus Joe Barton (R-TX), Energy and Power Subcommittee Chairman Ed Whitfield (R-KY), and subcommittee Vice Chairman Steve Scalise (R-LA) wrote, "In light of these statutory prohibitions, we request that the EPA's proposed rule, which has not yet been published in the Federal Register, be withdrawn. This will ensure that the agency does not propose standards beyond its legal authority. This will also ensure that stakeholders and the public will not have to incur additional costs to respond to a proposal that contravenes applicable law."

For a full copy of the letter to EPA, click [HERE](#).

From: Michael Goo <(b) (6)>
Sent: Friday, November 15, 2013 6:25 PM
To: Barron, Alex; Goo, Michael
Subject: Fwd: E and C letter

Hey. Can you check on the skinny on this. Unfortunately this is a provision I am suspecting I negotiated with Bob Meyers. There is at least the Saskatchewan plant. It would be great if I could figure how DOE could help with this problem if there is a problem. Thanks. You can reply to the EPA account.

Sent from my iPhone

Begin forwarded message:

From: Michael Goo <(b) (6)>
Date: November 15, 2013, 6:18:25 PM EST
To: "goo.michael@epa.gov" <goo.michael@epa.gov>
Subject: E and C letter

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COMMITTEE ON ENERGY AND COMMERCE

Chairman Fred Upton
113th Congress

FOR IMMEDIATE RELEASE

CONTACT: Press Office

November 15, 2013

[\(202\) 226-4972](tel:(202)226-4972)

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Subject: Fw: Fwd: SAB Urged to Review Adequacy of EPA's Basis for NSPS CCS Mandate

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From: Energy and Commerce News [<mailto:EnergyandCommerceNews@mail.house.gov>]
Sent: Friday, November 15, 2013 4:14 PM
Subject: Committee Leaders Request Withdrawal of EPA's Proposed Power Plant Standards Citing Prohibition Under Energy Policy Act



COMMITTEE ON ENERGY AND COMMERCE

Chairman Fred Upton
113th Congress

FOR IMMEDIATE RELEASE

CONTACT: Press Office

November 15, 2013

[\(202\) 226-4972](tel:(202)226-4972)

Committee Leaders Request Withdrawal of EPA's Proposed Power Plant Standards Citing Prohibition Under Energy Policy Act

“...EPA’s consideration of CCPI projects to determine that CCS for power plants is ‘adequately demonstrated’ is prohibited.”

WASHINGTON, DC – House Energy and Commerce Committee leaders today [wrote](#) to Environmental Protection Agency Administrator Gina McCarthy expressing concerns regarding EPA’s proposed greenhouse gas New Source Performance Standards for new power plants that would require the installation of carbon capture and storage (CCS) technologies that are not commercially viable. The members believe the proposed standards go beyond the scope of the EPA’s legal authority and are requesting the proposed rule be withdrawn.

EPA is proposing standards pursuant to Section 111 of the Clean Air Act, which provides that emissions standards must be achievable using “adequately demonstrated” technologies. EPA maintains that CCS technologies for coal-fired power plants have been “adequately demonstrated” based on three government-funded projects under construction or planned that are receiving assistance under the Department of Energy’s Clean Coal Power Initiative (CCPI) and one other small-scale Canadian government-funded project. EPA Acting Assistant Administrator Janet McCabe confirmed the agency uses these projects as the basis for its determination during [questioning](#) at yesterday’s Energy and Power Subcommittee [hearing](#). **While EPA is using these projects to justify its proposed standards, the Energy Policy Act of 2005 [prohibits](#) EPA from considering technology used at CCPI projects as being “adequately demonstrated” for purposes of Section 111 of the Clean Air Act.** Based on these facts, the committee leaders concluded, “Under these provisions of the Energy Policy Act of 2005, EPA’s consideration of CCPI projects to determine that CCS for coal-fired power plants is ‘adequately demonstrated’ is prohibited.”

In the [letter](#) to McCarthy, House Energy and Commerce Committee Chairman Fred Upton (R-MI), Chairman Emeritus Joe Barton (R-TX), Energy and Power Subcommittee Chairman Ed Whitfield (R-KY), and subcommittee Vice Chairman Steve Scalise (R-LA) wrote, “In light of these statutory prohibitions, we request that the EPA’s proposed rule, which has not yet been published in the Federal Register, be withdrawn. This will ensure that the agency does not propose standards beyond its legal authority. This will also ensure that stakeholders and the public will not have to incur additional costs to respond to a proposal that contravenes applicable law.”

For a full copy of the letter to EPA, click [HERE](#).

From: Goo, Michael
Sent: Saturday, November 16, 2013 10:54 PM
To: Schmidt, Lorie
Subject: Re: E and C letter

Thanks Lorie. I will see what we can do from the DOE side as well. Thanks for the reply on a saturday.

From: Schmidt, Lorie
Sent: Saturday, November 16, 2013 12:59:54 PM
To: Goo, Michael
Subject: Re: E and C letter

We are looking at this.

We are going to have to drill down to figure out funding streams and tax credits. DOE help would be great. I think Goffman was going to contact someone over there. I'm not sure how we figure out the tax credit status.

we relied on a broad array of information, including a Canadian plant (which would not have EPACT support, I assume). We'll have to tease out which info came from where.

From: Goo, Michael
Sent: Saturday, November 16, 2013 11:31:28 AM
To: Schmidt, Lorie
Subject: Fw: E and C letter

Hi Lorie. How are you? Hey are you guys looking at this? I'm just wondering if those are the only four plants we are relying on and whether this provision in the 2005 energy does or will have the effect of disqualifying those plants from being the basis for BSER. I'm thinking about this from my new DOE angle and whether we could help come up with some other plants. I asked Alex Barron to check on this as well. Maybe Janets list was incomplete. Thanks for any thoughts or help you can offer. I can pass things up the line at DOE if need be.

From: Michael Goo <(b) (6)>
Sent: Friday, November 15, 2013 6:18:25 PM
To: Goo, Michael
Subject: E and C letter

From: Energy and Commerce News [<mailto:EnergyandCommerceNews@mail.house.gov>]
Sent: Friday, November 15, 2013 4:14 PM
Subject: Committee Leaders Request Withdrawal of EPA's Proposed Power Plant Standards Citing Prohibition Under Energy Policy Act



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For a full copy of the letter to EPA, click [HERE](#).

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Sent: Saturday, November 16, 2013 11:31 AM
To: Schmidt, Lorie
Subject: Fw: E and C letter

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For a full copy of the letter to EPA, click [HERE](#).

From: CN=Bicky Corman/OU=DC/O=USEPA/C=US
Sent: Monday, March 14, 2011 8:14 AM
To: CN=Michael Goo/OU=DC/O=USEPA/C=US@EPA
Cc: "Alexander Cristofaro" ; Shannon Kenny" ; Kime robin"
Subject: Re: Fw: SBA Letter

(b) (5)



Bicky Corman
Deputy Associate Administrator
Office of Policy
U.S. Environmental Protection Agency
desk: 202-564-2202
cell: 202-465-5966
Corman.Bicky@epamail.epa.gov.

From: Michael Goo/DC/USEPA/US
To: "Alexander Cristofaro" <Cristofaro.Alexander@epamail.epa.gov>, "Shannon Kenny" <Kenny.Shannon@epamail.epa.gov>, "Kime robin" <kime.robin@epa.gov>, "Bicky Corman" <Corman.Bicky@epamail.epa.gov>
Date: 03/13/2011 05:47 PM
Subject:Fw: SBA Letter

Here is a revised letter. I think it keeps all of your material. Please take a close look at all of the material I added and ensure that its accurate. Thanks

From: michael Goo (b) (6)
Sent: 03/13/2011 02:42 PM MST
To: Michael Goo
Subject: Re: SBA Letter

From: "Goo.Michael@epamail.epa.gov" <Goo.Michael@epamail.epa.gov>
To: (b) (6)
Sent: Sun, March 13, 2011 5:02:30 PM
Subject: Fw: SBA Letter

----- Original Message -----

From: Alexander Cristofaro

Sent: 03/12/2011 12:59 PM EST

To: Michael Goo

Subject: Re: SBA Letter

Here is their letter:

(See attached file: SBA Letter.pdf)

Here is their statement of Legislative Priorities:

(See attached file: Legislative Priorities-Final.pdf)

Here is the draft response:

(See attached file: SBA Response BIC LBW.docx)

(b) (5)



Alex Cristofaro

Director, Office of Regulatory Policy and Management EPA Mailcode 1804A

1200 Pennsylvania Avenue, NW

Washington, D.C. 20460

(202) 564-7253 (202) 501-1688 (fax)

From: Michael Goo/DC/USEPA/US

To: Alexander Cristofaro/DC/USEPA/US@EPA

Date: 03/11/2011 06:00 PM

Subject: Re: SBA Letter

Can u forward me the latest? I will edit over the weekend.

----- Original Message -----

From: Alexander Cristofaro

Sent: 03/11/2011 04:02 PM EST

To: Michael Goo; Shannon Kenny

Subject: SBA Letter

Any progress on this?

Alex Cristofaro

Director, Office of Regulatory Policy and Management EPA Mailcode 1804A

1200 Pennsylvania Avenue, NW

Washington, D.C. 20460

(202) 564-7253 (202) 501-1688 (fax)

[attachment "SBA Response BIC LBW.docx" deleted by Bicky Corman/DC/USEPA/US]

From: CN=Lorie Schmidt/OU=DC/O=USEPA/C=US
Sent: Monday, May 09, 2011 11:02 PM
To: CN=Michael Goo/OU=DC/O=USEPA/C=US@EPA
Cc: "Kevin Culligan"
Subject: Re: Fw:

Thanks.

(b) (5)

From: Michael Goo/DC/USEPA/US
To: "Kevin Culligan" <Culligan.Kevin@epamail.epa.gov>, "Lorie Schmidt" <Schmidt.Lorie@epamail.epa.gov>
Date: 05/09/2011 10:56 PM
Subject:Fw:

Here it is in both the message and a word doc.

From: michael Goo (b) (6)
Sent: 05/09/2011 07:54 PM MST
To: Michael Goo

Other Options

(b) (5)

(b) (5)

[attachment "Other Options.docx" deleted by Lorie Schmidt/DC/USEPA/US]

From: CN=Lorie Schmidt/OU=DC/O=USEPA/C=US
Sent: Monday, May 09, 2011 11:19 PM
To: CN=Michael Goo/OU=DC/O=USEPA/C=US@EPA
Cc: CN=Kevin Culligan/OU=DC/O=USEPA/C=US@EPA
Subject: Re: Fw:

(b) (5)




From: Michael Goo/DC/USEPA/US
To: Lorie Schmidt/DC/USEPA/US@EPA
Cc: Kevin Culligan/DC/USEPA/US@EPA
Date: 05/09/2011 11:15 PM
Subject: Re: Fw:

I guess I don't have a problem with that. (b) (5)



----- Original Message -----

From: Lorie Schmidt
Sent: 05/09/2011 11:02 PM EDT
To: Michael Goo
Cc: Kevin Culligan
Subject: Re: Fw:
Thanks.

(b) (5)





From: Michael Goo/DC/USEPA/US
To: "Kevin Culligan" <Culligan.Kevin@epamail.epa.gov>, "Lorie Schmidt" <Schmidt.Lorie@epamail.epa.gov>

Date: 05/09/2011 10:56 PM

Subject:Fw:

Here it is in both the message and a word doc.

From: michael Goo (b) (6)

Sent: 05/09/2011 07:54 PM MST

To: Michael Goo

Other Options

(b) (5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

(b) (5)

[REDACTED]

[attachment "Other Options.docx" deleted by Lorie Schmidt/DC/USEPA/US]

From: CN=Lorie Schmidt/OU=DC/O=USEPA/C=US
Sent: Monday, May 09, 2011 11:54 PM
To: CN=Michael Goo/OU=DC/O=USEPA/C=US@EPA
Cc: CN=Kevin Culligan/OU=DC/O=USEPA/C=US@EPA
Subject: Re: Fw:

good -- I'm heading home now.

From: Michael Goo/DC/USEPA/US
To: Lorie Schmidt/DC/USEPA/US@EPA
Cc: Kevin Culligan/DC/USEPA/US@EPA
Date: 05/09/2011 11:38 PM
Subject: Re: Fw:

Going to sleep now

----- Original Message -----

From: Lorie Schmidt
Sent: 05/09/2011 11:19 PM EDT
To: Michael Goo
Cc: Kevin Culligan
Subject: Re: Fw:

(b) (5)




From: Michael Goo/DC/USEPA/US
To: Lorie Schmidt/DC/USEPA/US@EPA
Cc: Kevin Culligan/DC/USEPA/US@EPA
Date: 05/09/2011 11:15 PM
Subject: Re: Fw:

I guess I don't have a problem with that. We could (b) (5)



(b) (5)

----- Original Message -----

From: Lorie Schmidt

Sent: 05/09/2011 11:02 PM EDT

To: Michael Goo

Cc: Kevin Culligan

Subject: Re: Fw:

Thanks.

(b) (5)

From: Michael Goo/DC/USEPA/US

To: "Kevin Culligan" <Culligan.Kevin@epamail.epa.gov>, "Lorie Schmidt" <Schmidt.Lorie@epamail.epa.gov>

Date: 05/09/2011 10:56 PM

Subject:Fw:

Here it is in both the message and a word doc.

From: michael Goo (b) (6)

Sent: 05/09/2011 07:54 PM MST

To: Michael Goo

Other Options

(b) (5)

(b) (5)

[attachment "Other Options.docx" deleted by Lorie Schmidt/DC/USEPA/US]

From: CN=Lorie Schmidt/OU=DC/O=USEPA/C=US
Sent: Monday, May 09, 2011 11:55 PM
To: CN=Michael Goo/OU=DC/O=USEPA/C=US@EPA
Cc: "Alex Barron" ; N=Kevin Culligan/OU=DC/O=USEPA/C=US@EPA
Subject: Re: Fw:

(b) (5)

From: Michael Goo/DC/USEPA/US
To: Lorie Schmidt/DC/USEPA/US@EPA
Cc: Kevin Culligan/DC/USEPA/US@EPA, "Alex Barron" <Barron.Alex@epamail.epa.gov>
Date: 05/09/2011 11:38 PM
Subject: Re: Fw:

(b) (5)

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(b) (5)

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Subject: Re: Fw:

(b) (5)

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Sent: 05/09/2011 11:02 PM EDT

To: Michael Goo

Cc: Kevin Culligan

Subject: Re: Fw:

(b) (5)

From: Michael Goo/DC/USEPA/US

To: "Kevin Culligan" <Culligan.Kevin@epamail.epa.gov>, "Lorie Schmidt" <Schmidt.Lorie@epamail.epa.gov>

Date: 05/09/2011 10:56 PM

Subject: Fw:

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From: michael Goo (b) (6)

Sent: 05/09/2011 07:54 PM MST

To: Michael Goo

Other Options

(b) (5)

(b) (5)



[attachment "Other Options.docx" deleted by Lorie Schmidt/DC/USEPA/US]

From: michael Goo <michael Goo <(b) (6)>>
Sent: Monday, May 23, 2011 1:53 PM
To: Michael Goo/DC/USEPA/US@EPA
Subject: Fw: NSPS algorithm from NorthBridge
Attachments: Draft Formula Approach 5-20-2011.pdf; cschneider@catf.us; www.catf.us

----- Forwarded Message -----

From: Conrad Schneider <cschneider@catf.us>
To: Michael Goo <(b) (6)>
Cc: Joe Chaisson <joe100@zwi.net>; Jonathan Banks <jbanks@catf.us>
Sent: Fri, May 20, 2011 3:48:21 PM
Subject: NSPS algorithm from NorthBridge

Hi Michael-

Attached please find the latest from NorthBridge on the NSPS "function" approach. It has been further refined (and simplified) since my last message. Joe thinks NorthBridge will have some diagnostic analysis by the last part of next week. Note: I'll be out of the office next week (M-Th), so if you have any questions about this, please call Joe. His cell number is (b) (6) His office number is 207/833-6786.

Thanks,
CS

Conrad G. Schneider
Advocacy Director
Clean Air Task Force
cschneider@catf.us
www.catf.us
169 Park Row
Brunswick, Maine 04011
207/721-8676
207/721-8696 (facsimile)

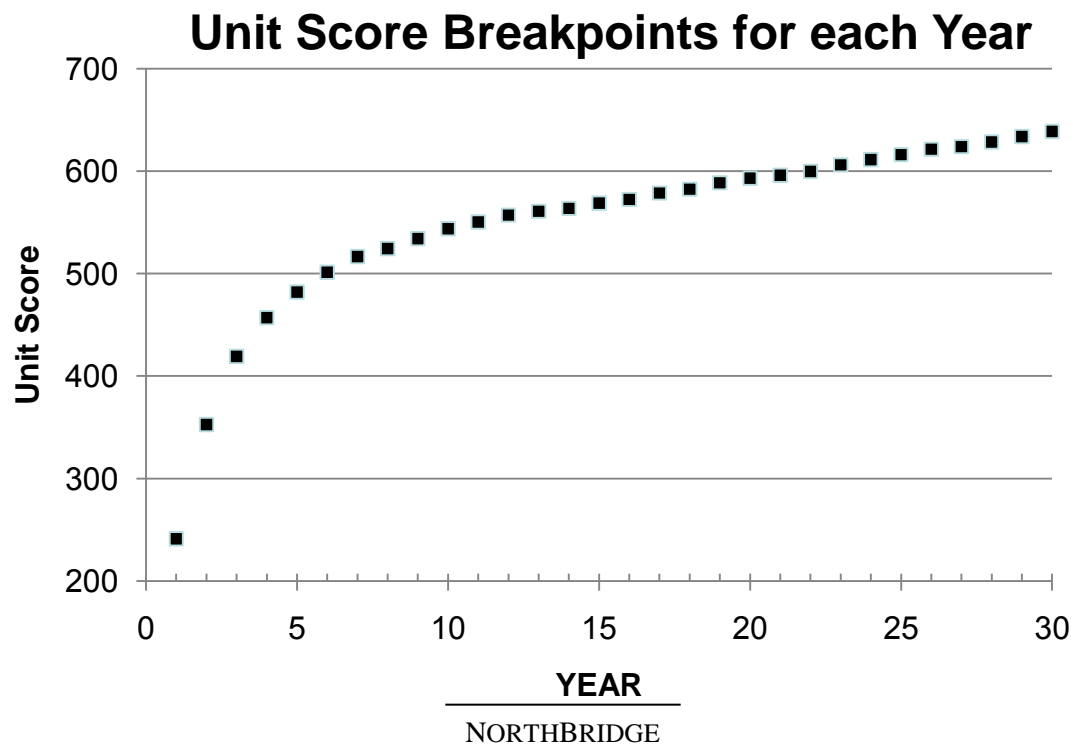
FORMULA APPROACH

The “formula” approach involves a two step process:

1. A score is calculated for each generating unit based on its size (measured in MWs) and its heat rate, as follows.

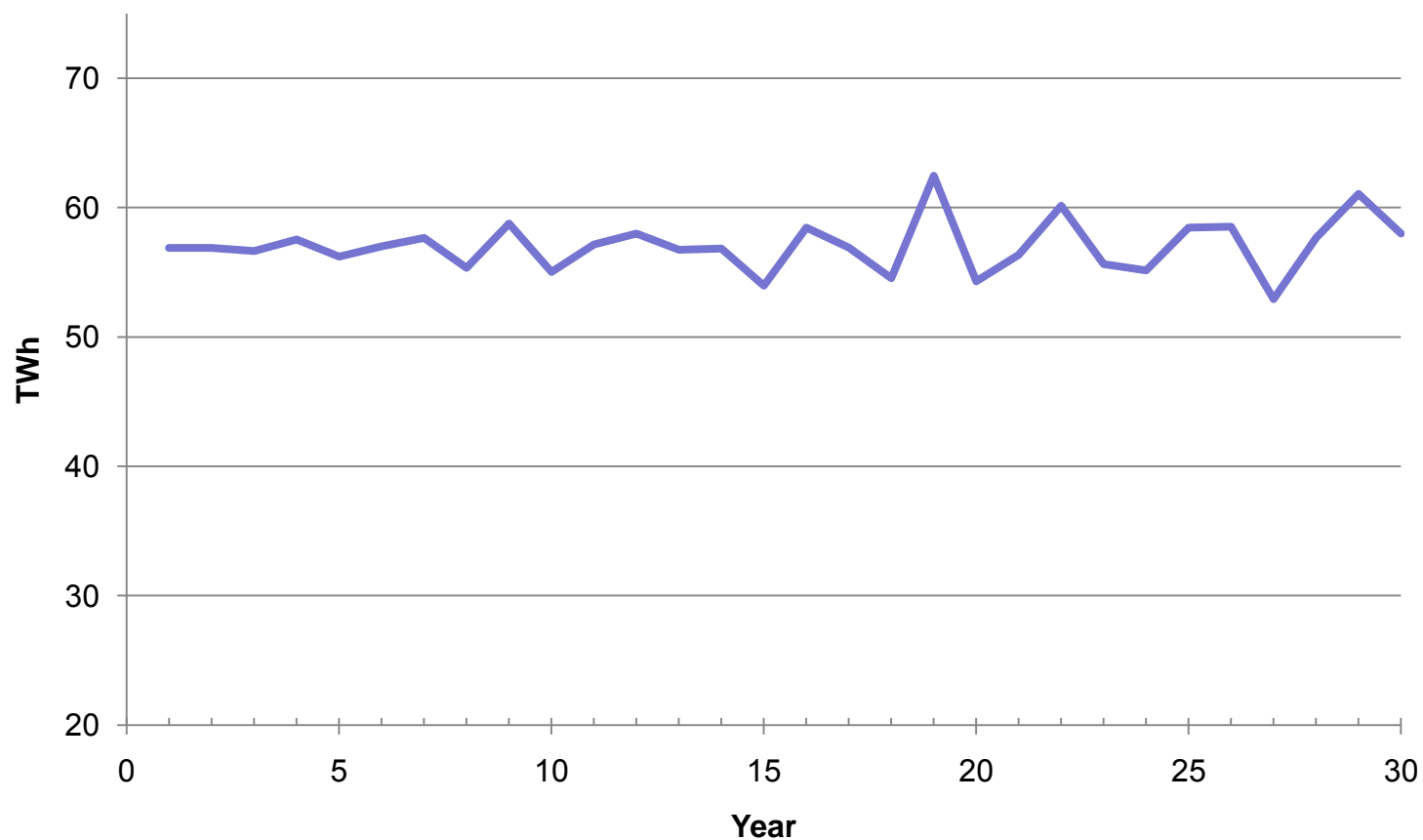
$$\text{Unit Score} = 210.4177 + 0.6384 * \text{Unit Capacity} - 23.7297 * \text{Unit Heat rate}$$

2. The resulting unit scores are used to determine the year in which each unit is first required to be in compliance.



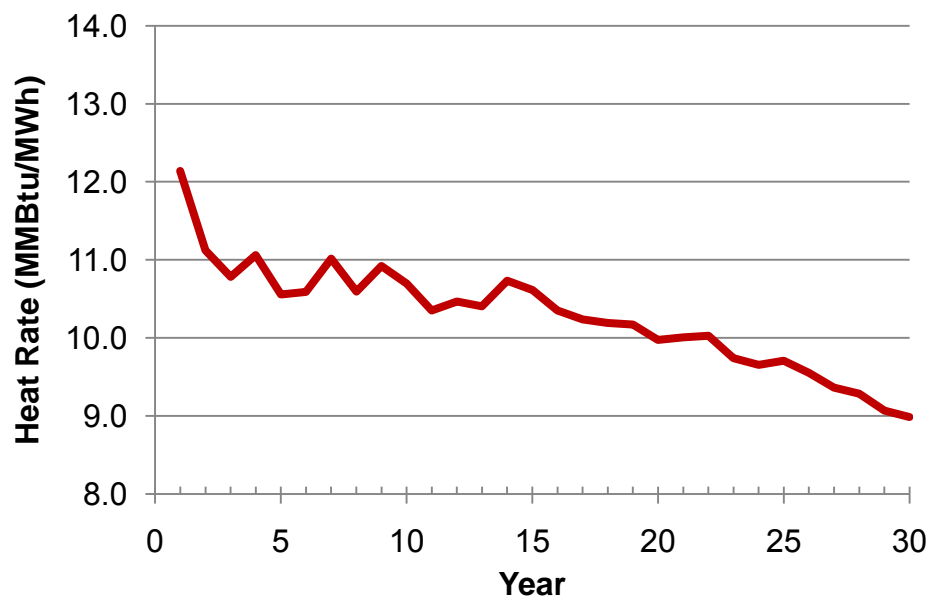
FORMULA APPROACH

Resulting TWhs by Year

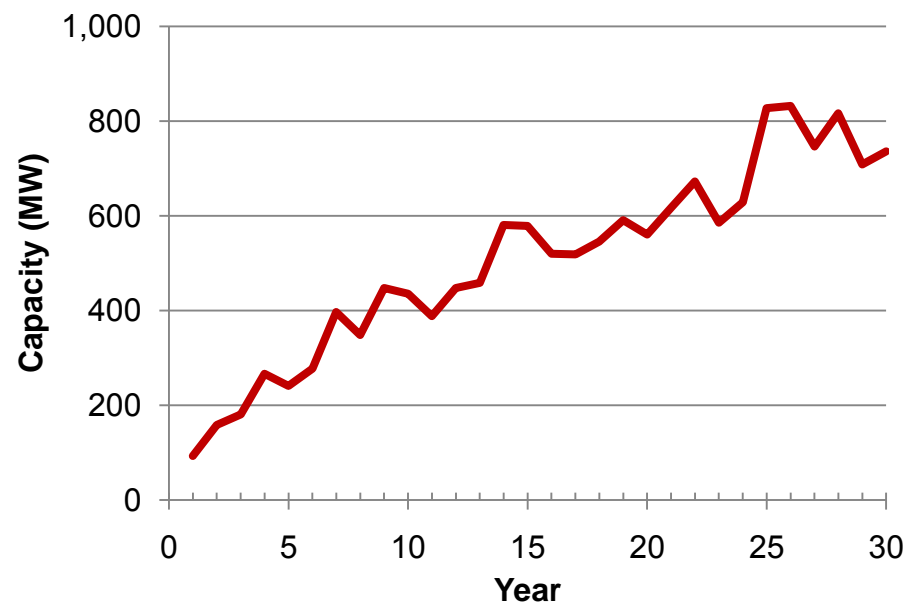


FORMULA APPROACH

Average Heat Rate by Year



Average Unit Size by Year



From: CN=Bob Perciasepe/OU=DC/O=USEPA/C=US
Sent: Sunday, September 04, 2011 6:55 PM
To: CN=Michael Goo/OU=DC/O=USEPA/C=US;"sussman.bob@epa.gov" ;
sussman.bob@epa.gov"
Subject: RE: Fw: groupabc

Have to go to the airport so the write ups on what each group represents will come later this evening, look then or the morning.

Bob Perciasepe
Deputy Administrator
US EPA
202 564 4711

----- Original Message -----

From : Michael Goo/DC/USEPA/US
To : "Bob Perciasepe" <Perciasepe.Bob@epamail.epa.gov>, sussman.bob@epa.gov
Cc :
Sent on : 09/04/2011 02:51:23 PM
Subject : Fw: groupabc

Here is the latest list. I think this is as far as I will get today. Bob P will write up descriptions of each group.

From: michael Goo (b) (6)
Sent: 09/04/2011 11:48 AM MST
To: Michael Goo
Subject: Fw: groupabc

----- Forwarded Message -----

From: "Goo.Michael@epamail.epa.gov" <Goo.Michael@epamail.epa.gov>
To: (b) (6)
Sent: Sunday, September 4, 2011 12:34 PM
Subject: groupabc

(See attached file: summaryofeparulesgroupabc.docx)

From: michael Goo <michael Goo <(b) (6)>>
Sent: Sunday, September 18, 2011 1:33 PM
To: Michael Goo/DC/USEPA/US@EPA
Subject: Fw: CSAPR Concerns

----- Forwarded Message -----

From: Michael Bradley <mbradley@mjbradley.net>
To: (b) (6)
Sent: Sunday, September 18, 2011 1:38 AM
Subject: FW: CSAPR Concerns

Michael,

Below is the message I have sent to Gina and Joe. I can be reached before 10:00 AM eastern time tomorrow morning and after 3:30 PM when I arrive in DC.

Michael

From: Michael Bradley [mailto:mbradley@mjbradley.com]
Sent: Sunday, September 18, 2011 1:35 AM
To: (b) (6)
Subject: FW: CSAPR Concerns

Joe,

Would you please send this email on to Gina for me? I would have sent it to her directly with a cc to you but I don't have a private email address for her and would prefer to not use an official email address. Your calls to Eric and Bob were very helpful in reassuring them that EPA is looking to be responsive to their State budget concerns but time is becoming an issue and others within PSEG and NGrid are pushing for a clear resolution in the very near term. Thanks.

Gina,

As you know, many of the CEG companies have been having a series of conversations with EPA about the concerns on the final state budgets under the Cross-State Air Pollution Rule (CSAPR). The companies want to remain supportive of the final CSAPR because it is intended to reduce emissions. In general, the companies see the rule as improving on CAIR and being responsive to the D.C. Circuit's decision. However, we are continuing to identify errors in the final rule that we believe could undermine the legal stability of the rule. Our goal is to have a rule implemented that is legally sound, gives the industry the needed business certainty for investments in cleaner generation, and addresses the air transport issues affecting many of the state in which the CEG members operate. We would not want to see the rule stayed.

However, as we have discussed, the state budgets for NY, NJ, and FL were significantly reduced in the final rule. These changes are making supporting the implementation of the rule, as currently written, very difficult. While we understand EPA is willing to consider making technical adjustments to state budgets based on new technical information, we are concerned that despite efforts to provide EPA with additional information, EPA may not be able to adjust those state budgets until after October 7th – the deadline for when petitions for reconsideration and petitions to the DC Circuit are due. Additionally, since the rule's release, multiple levels of staff at the various CEG companies have become involved in evaluating the implications of the rule and suggesting various courses of action, which, as I am sure you can appreciate, make the dynamics difficult to manage.

Since the rule's release about 10 weeks ago, we have been working to explain the concerns we have with certain state budgets and highlight the technical errors that result from using the IPM model and not taking into account the transmission system constraints

that are unique to certain areas in the U.S. The following explains our specific concerns related to New Jersey, New York and Florida as well as the outreach we have had with EPA.

Following Eric Svenson's outreach to you regarding PSEG's concerns, we have had several discussions with Joe Goffman and Sam Napolitano on the NJ state budget. Compared to the proposed budget, New Jersey's final annual NOx budget was reduced by 39 percent, the ozone season NOx budget was reduced by 36 percent, and New Jersey's SO2 budget was reduced by 51 percent. With fewer allowances available to the state, several of PSEG's generating units are projected to be short allowances beginning in 2012, despite having advanced pollution control equipment installed and operating. Additionally, since PSEG's generating fleet is generally well controlled, there are limited opportunities for further emissions reductions between now and 2012.

A similar situation exists for NY. Compared to 2010 emissions, NY state looks to be significantly short of the 2012 state budgets even with the assurance provisions. We understand the NYDEC has been engaged with EPA to provide information to highlight the fact that there are many units in NY that must operate due to transmission constraints but for which the model predicted the units to have zero heat input. Both National Grid and Consolidated Edison of NY have also had calls with Sam and Joe to express similar concerns with the model and state budget, and had provided similar information about these must run units during the comment period. Without adjustments to the state budget, there are concerns that units needed for reliability purposes would not be able to operate.

NextEra has also met with Joe and Sam several times regarding the Florida state budget, and there we are also seeing that the IPM model fails to recognize that some units will need to run for reliability purposes due to natural gas constraints. This was an issue NextEra and others also raised during the comment period, and the inability of the model to make these adjustments significantly impacts the state allowance budget.

The concerns described above are creating a very difficult dynamic within the Clean Energy Group and for these individual companies to remain supportive of EPA's regulations. The approaches in the final rule appear to penalize the early investments many of the CEG companies made in anticipation of regulations. Additionally, the rule does not allow for economic growth as there is not updating of allowance allocations.

I am appreciative of EPA's efforts to try to make the necessary adjustments to state budgets that have clear errors while ensuring that any changes do not affect the timely implementation of the entire rule. The CEG members similarly want to make sure that right balance is struck so that the rule can remain effective in January 2012. Joe in particular has been very constructive in trying to find any appropriate solutions, but given the tight timeframe leading up to October 7th, I wanted you to be aware of the difficult position in which many of the CEG members are finding themselves.

Please do not hesitate to call me with any questions. I will be traveling tomorrow from the west coast to DC, arriving at 4:00 PM, and plan to be in DC all day on Monday and Tuesday. With the exception of the times when Sue Tierney, Paul Allen and I are presenting a Utility Toxics Rule briefing for House and Senate staff on Monday I'm available to discuss these issues with you and others.

Michael

To: "Kevin Culligan" [Culligan.Kevin@epamail.epa.gov]; Lorie Schmidt
[Schmidt.Lorie@epamail.epa.gov]
From: CN=Michael Goo/OU=DC/O=USEPA/C=US
Sent: Tue 5/10/2011 2:56:21 AM
Subject: Fw:
[Other Options.docx](#)

Here it is in both the message and a word doc.

From: michael Goo (b) (6)
Sent: 05/09/2011 07:54 PM MST
To: Michael Goo

Other Options

(b) (5)

| [REDACTED]
| [REDACTED]
| [REDACTED]
| [REDACTED]
| [REDACTED]
| [REDACTED]

[REDACTED]

| [REDACTED] (b) (5)
| [REDACTED]
| [REDACTED]

(b) (5) [Redacted]

(b)
(5)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Other Options

(b) (5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

To: CN=Lorie Schmidt/OU=DC/O=USEPA/C=US@EPA[]
Cc: CN=Kevin Culligan/OU=DC/O=USEPA/C=US@EPA[]
From: CN=Michael Goo/OU=DC/O=USEPA/C=US
Sent: Tue 5/10/2011 3:15:48 AM
Subject: Re: Fw:

I guess I don't have a problem with that. We could (b) (5)

[REDACTED]

----- Original Message -----

From: Lorie Schmidt
Sent: 05/09/2011 11:02 PM EDT
To: Michael Goo
Cc: Kevin Culligan
Subject: Re: Fw:

Thanks.

(b) (5)
(b) (5)

[REDACTED]

[REDACTED]

[REDACTED]

From: Michael Goo/DC/USEPA/US
To: "Kevin Culligan" <Culligan.Kevin@epamail.epa.gov>, "Lorie Schmidt" <Schmidt.Lorie@epamail.epa.gov>
Date: 05/09/2011 10:56 PM
Subject: Fw:

Here it is in both the message and a word doc.

From: michael Goo (b) (6)
Sent: 05/09/2011 07:54 PM MST
To: Michael Goo

Other Options

(b) (5)

[REDACTED]

[REDACTED]

(b) (5) [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

(b) (5) [REDACTED]

[REDACTED]

[attachment "Other Options.docx" deleted by Lorie Schmidt/DC/USEPA/US]

To: CN=Lorie Schmidt/OU=DC/O=USEPA/C=US@EPA[]
Cc: CN=Kevin Culligan/OU=DC/O=USEPA/C=US@EPA;"Alex Barron"
[Barron.Alex@epamail.epa.gov]; Alex Barron" [Barron.Alex@epamail.epa.gov]
From: CN=Michael Goo/OU=DC/O=USEPA/C=US
Sent: Tue 5/10/2011 3:38:52 AM
Subject: Re: Fw:

(b) (5)

----- Original Message -----

From: Lorie Schmidt
Sent: 05/09/2011 11:19 PM EDT
To: Michael Goo
Cc: Kevin Culligan
Subject: Re: Fw:

(b) (5)

From: Michael Goo/DC/USEPA/US
To: Lorie Schmidt/DC/USEPA/US@EPA
Cc: Kevin Culligan/DC/USEPA/US@EPA
Date: 05/09/2011 11:15 PM
Subject: Re: Fw:

I guess I don't have a problem with that. We could (b) (5)

----- Original Message -----

From: Lorie Schmidt
Sent: 05/09/2011 11:02 PM EDT
To: Michael Goo
Cc: Kevin Culligan
Subject: Re: Fw:
Thanks.

(b) (5) [REDACTED]

(b) (5) [REDACTED]

[REDACTED]

From: Michael Goo/DC/USEPA/US
To: "Kevin Culligan" <Culligan.Kevin@epamail.epa.gov>, "Lorie Schmidt" <Schmidt.Lorie@epamail.epa.gov>
Date: 05/09/2011 10:56 PM
Subject: Fw:

Here it is in both the message and a word doc.

From: michael Goo [(b) (6)]
Sent: 05/09/2011 07:54 PM MST
To: Michael Goo

Other Options

(b) (5) [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

(b)
(5)

[REDACTED]

[REDACTED]

(b) (5)

A large rectangular area of the document is completely redacted with black ink. The redaction covers the top portion of the page, starting below the (b) (5) label and extending across most of the width of the page.

[attachment "Other Options.docx" deleted by Lorie Schmidt/DC/USEPA/US]

To: CN=Lorie Schmidt/OU=DC/O=USEPA/C=US@EPA[]
Cc: CN=Kevin Culligan/OU=DC/O=USEPA/C=US@EPA[]
From: CN=Michael Goo/OU=DC/O=USEPA/C=US
Sent: Tue 5/10/2011 3:38:54 AM
Subject: Re: Fw:

Going to sleep now

----- Original Message -----

From: Lorie Schmidt
Sent: 05/09/2011 11:19 PM EDT
To: Michael Goo
Cc: Kevin Culligan
Subject: Re: Fw:

(b) (5)

[REDACTED]

From: Michael Goo/DC/USEPA/US
To: Lorie Schmidt/DC/USEPA/US@EPA
Cc: Kevin Culligan/DC/USEPA/US@EPA
Date: 05/09/2011 11:15 PM
Subject: Re: Fw:

I guess I don't have a problem with that. (b) (5)

[REDACTED]

(b) (5)

----- Original Message -----

From: Lorie Schmidt
Sent: 05/09/2011 11:02 PM EDT
To: Michael Goo
Cc: Kevin Culligan
Subject: Re: Fw:

Thanks.

(b) (5)

[REDACTED]

[REDACTED]

From: Michael Goo/DC/USEPA/US
To: "Kevin Culligan" <Culligan.Kevin@epamail.epa.gov>, "Lorie Schmidt" <Schmidt.Lorie@epamail.epa.gov>
Date: 05/09/2011 10:56 PM
Subject: Fw:

Here it is in both the message and a word doc.

From: michael Goo [(b) (6)]
Sent: 05/09/2011 07:54 PM MST
To: Michael Goo

Other Options

(b) (5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

(b)
(5)

[REDACTED]

[REDACTED]

[attachment "Other Options.docx" deleted by Lorie Schmidt/DC/USEPA/US]

To: "Alex Barron" [Barron.Alex@epamail.epa.gov]; kenny shannon"
[kenny.shannon@epa.gov]
From: CN=Michael Goo/OU=DC/O=USEPA/C=US
Sent: Mon 5/23/2011 9:13:25 PM
Subject: Fw: NSPS algorithm from NorthBridge
[Draft Formula Approach 5-20-2011.pdf](#)
cschneider@catf.us
www.catf.us

From: michael Goo (b) (6)
Sent: 05/23/2011 10:52 AM MST
To: Michael Goo
Subject: Fw: NSPS algorithm from NorthBridge

----- Forwarded Message -----

From: Conrad Schneider <cschneider@catf.us>
To: Michael Goo (b) (6)
Cc: Joe Chaisson <joe100@gwi.net>; Jonathan Banks <jbanks@catf.us>
Sent: Fri, May 20, 2011 3:48:21 PM
Subject: NSPS algorithm from NorthBridge

Hi Michael-

Attached please find the latest from NorthBridge on the NSPS "function" approach. It has been further refined (and simplified) since my last message. Joe thinks NorthBridge will have some diagnostic analysis by the last part of next week. Note: I'll be out of the office next week (M-Th), so if you have any questions about this, please call Joe. His cell number is 207/837-0398. His office number is 207/833-6786.

Thanks,
CS

Conrad G. Schneider
Advocacy Director
Clean Air Task Force
cschneider@catf.us
www.catf.us
169 Park Row
Brunswick, Maine 04011
207/721-8676
207/721-8696 (facsimile)

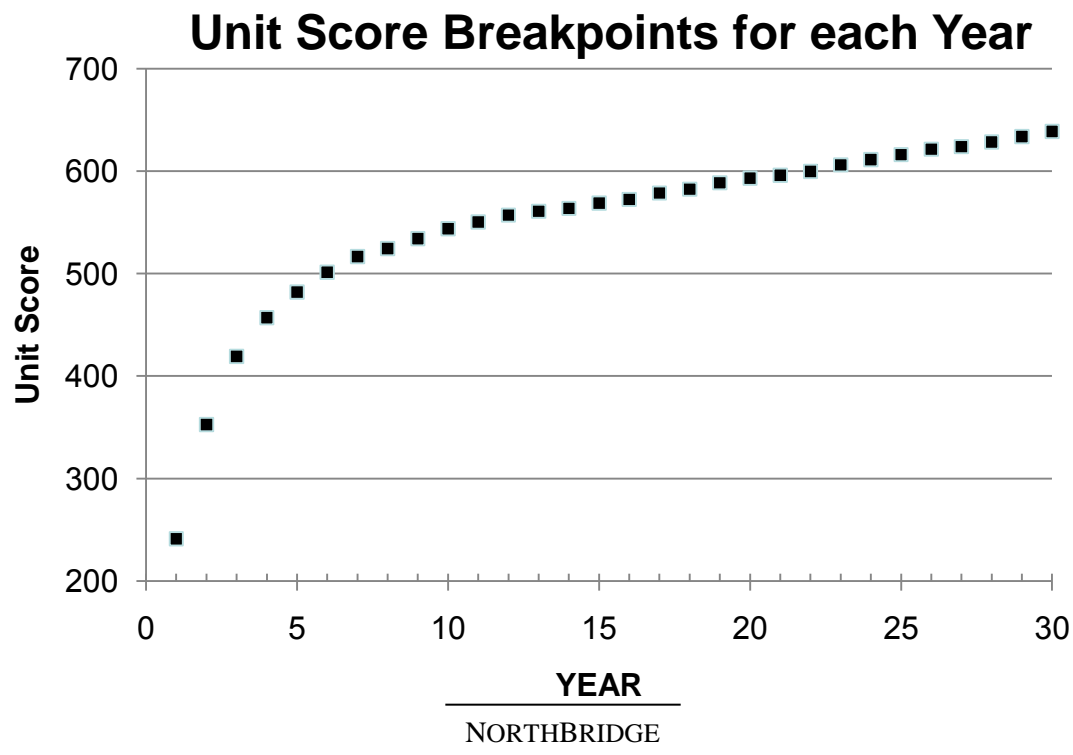
FORMULA APPROACH

The “formula” approach involves a two step process:

1. A score is calculated for each generating unit based on its size (measured in MWs) and its heat rate, as follows.

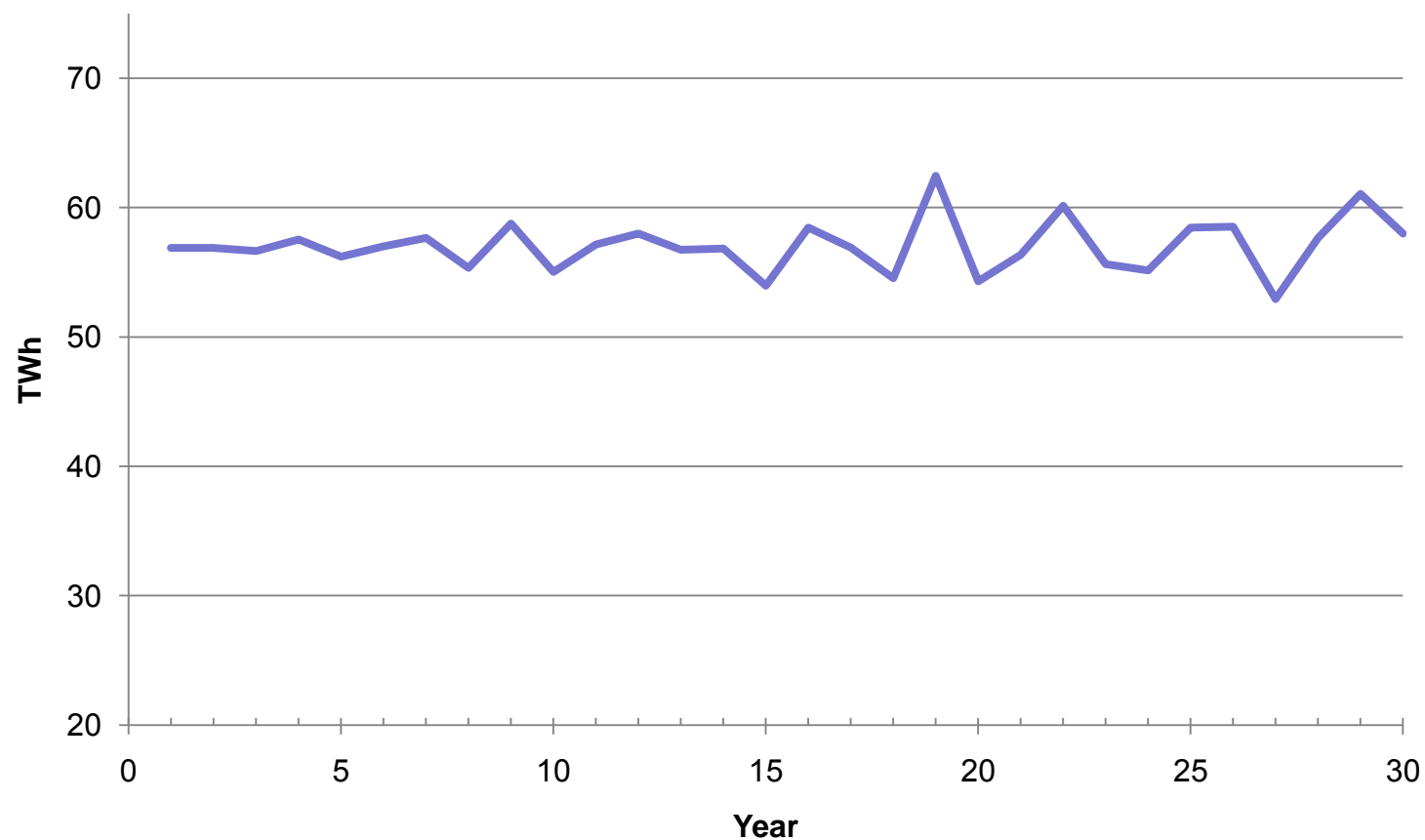
$$\text{Unit Score} = 210.4177 + 0.6384 * \text{Unit Capacity} - 23.7297 * \text{Unit Heat rate}$$

2. The resulting unit scores are used to determine the year in which each unit is first required to be in compliance.



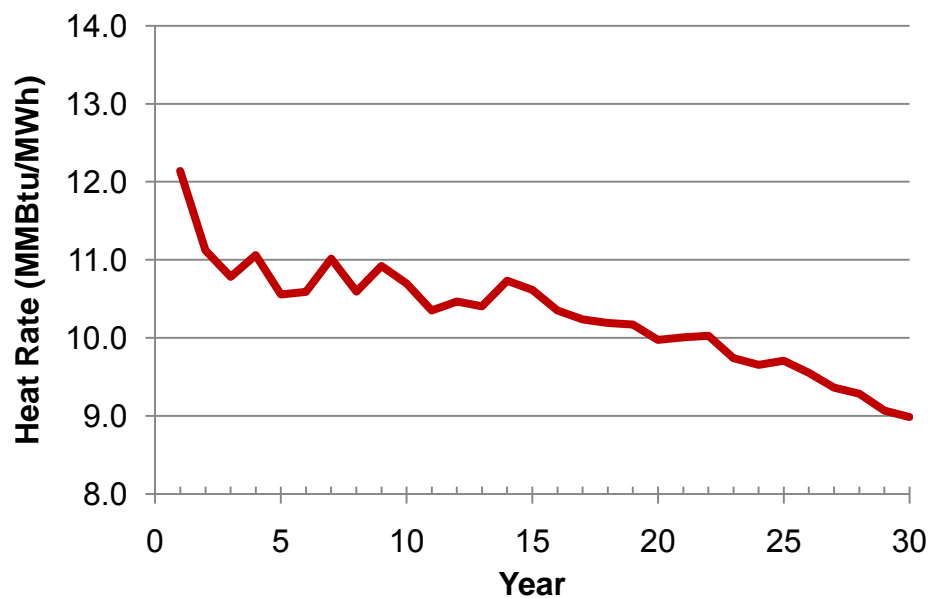
FORMULA APPROACH

Resulting TWhs by Year

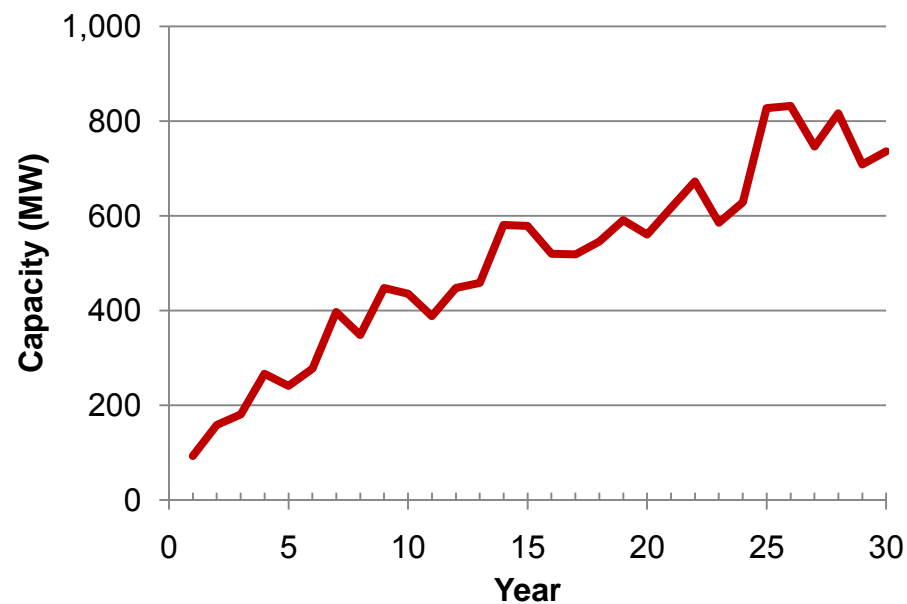


FORMULA APPROACH

Average Heat Rate by Year



Average Unit Size by Year



To: "Bob Perciasepe" [Perciasepe.Bob@epamail.epa.gov]; ussman.bob@epa.gov[]
From: CN=Michael Goo/OU=DC/O=USEPA/C=US
Sent: Sun 9/4/2011 2:41:45 AM
Subject: Fw: rule list
[summaryofeparules.docx](#)

Here is my try at a comprehensive list (b) (5)

From: michael Goo (b) (6)
Sent: 09/03/2011 07:39 PM MST
To: Michael Goo
Subject: rule list

(b) (5) [Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted] (b)

(b)
(5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] (b) (5) [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

(b) (5)

[illegible]

-
-

(b) (5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

To: "Bob Perciasepe" [Perciasepe.Bob@epamail.epa.gov]; ussman.bob@epa.gov[]
From: CN=Michael Goo/OU=DC/O=USEPA/C=US
Sent: Sun 9/4/2011 6:51:23 PM
Subject: Fw: groupabc
[summaryofeparulesgroupabc.docx](#)

Here is the latest list. I think this is as far as I will get today. [REDACTED]

From: michael Goo [(b) (6)]
Sent: 09/04/2011 11:48 AM MST
To: Michael Goo
Subject: Fw: groupabc

----- Forwarded Message -----

From: "Goo.Michael@epamail.epa.gov" <Goo.Michael@epamail.epa.gov>
To: thegooman600@yahoo.com
Sent: Sunday, September 4, 2011 12:34 PM
Subject: groupabc

(See attached file: summaryofeparulesgroupabc.docx)

(b) (5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] ?

(b) (5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

(b) (5) [REDACTED]

[illegible]

(b) (5)

(b) (5)

[Redacted text block]

[Redacted text block]

[Redacted text block]

- (b) (5)
(b) (5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

From: michael Goo <(b) (6)>
Sent: Thursday, May 09, 2013 5:01 PM
To: Goo, Michael
Subject: Fw: Retire v Co-fire
Attachments: retire v cofire.docx

----- Forwarded Message -----

From: "Lashof, Dan" <dlashof@nrdc.org>
To: (b) (6)
Cc: "Hawkins, Dave" <dhawkins@nrdc.org>; "Doniger, David" <ddoniger@nrdc.org>
Sent: Wednesday, June 8, 2011 6:39 PM
Subject: Retire v Co-fire

Michael—

This is a pretty basic analysis, but it makes me even more concerned that a coal-only standard is not likely to achieve significant emission reductions. I'm sending this only to you, Hawkins and Doniger. Attached and pasted below.

-Dan

Retire v Co-fire

Start with a moderately inefficient coal plant.

Heat rate: 11,000 Btu/kWh

Emission rate: 2286 lbs/MWh (at national average carbon content of 25.7 kgC/MBtu)

Fuel Cost: \$23.21/MWh (at EIA projected coal cost of \$2.11/MBtu in 2015)

Assume target emission rate is 2100 lbs/MWh.

Option 1: Retire coal plant and replace with efficient natural gas combined cycle (NGCC)

NGCC heat rate: 7200 Btu/KWh

NGCC emission rate: 842 lbs/MWh

Fuel cost operating on gas: \$33.62/MWh (at EIA projected gas cost of \$4.67/MBtu)

Option 2: Co-fire with natural gas in existing boiler, heat rate remains 11,000 Btu/KWh

Emission rate with gas: 1287 lbs/Mbtu

Co-firing percentage required to meet target: 18.6% gas

Fuel cost operating on gas: \$51.37/MWh (at EIA projected gas cost of \$4.67/MBtu)

Average fuel cost: \$28.44/MWh

Observations:

Even though using gas in an NGCC is much more efficient than co-firing gas in the existing coal boiler, the average fuel costs for operating the coal plant co-fired with gas to meet the standard are considerably lower than the fuel costs to run an efficient NGCC (by \$5/MWh). That means that, all other things being equal, it's cheaper to keep the coal plant online and co-fire with gas to meet the standard rather than to retire the coal plant and

replace all of its output with increased utilization of NGCC capacity. The comparison is even more favorable to retaining the coal plant if a new gas plant would have to be built to replace the capacity.

In fact, the emission rate standard would have to be lowered by 17% to 1915 lbs/MWh, requiring 37% gas co-firing, to bring the average fuel costs of the coal plant up to \$33.7/MWh, the level required to make it cheaper to retire the coal plant and operate the NGCC, rather than co-fire (see below). It's hard to see how EPA could defend such a standard, which raises the fuel costs of the affected units by almost 50%, or over \$10/MWh [particularly when the same reduction could be achieved by re-dispatching 26% of the coal plants MWhs to NGCC, at an incremental cost of less than \$3/MWh if the standard were structured so that re-dispatch can count toward compliance.]

Assume target emission rate is 1915 lbs/MWh.

Option 1: Retire coal plant and replace with efficient natural gas combined cycle (NGCC)

NGCC heat rate: 7200 Btu/KWh

NGCC emission rate: 842 lbs/MWh

Fuel cost operating on gas: \$33.62/MWh (at EIA projected gas cost of \$4.67/MBtu)

Option 2: Co-fire with natural gas in existing boiler, heat rate remains 11,000 Btu/KWh

Emission rate with gas: 1287 lbs/Mbtu

Co-firing percentage required to meet target: 37.1% gas

Fuel cost operating on gas: \$51.37/MWh (at EIA projected gas cost of \$4.67/MBtu)

Average fuel cost: \$33.66/MWh

Reduce utilization of coal plant, replace MWhs with efficient gas plant

NGCC heat rate: 7200 Btu/KWh

NGCC emission rate: 842 lbs/MWh

Re-dispatch percentage required to meet target: 25.7% gas

Fuel cost operating on gas: \$33.62/MWh

Average fuel cost: \$25.88

Daniel A. Lashof, Ph.D.

Director, NRDC Climate Center

202-289-6868 